IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application	) PATENT APPLICATION
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SC/Serial No.: Unknown	)
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Filed: Herewith	)
	)
Title: METHOD AND APPARATUS FOR	)
PROXY SERVER COOKIES	)
	)

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UTILITY PATENT APPLICATION TRANSMITTAL LETTER UNDER 37 C.F.R §1.53(b)

Box PATENT APPLICATION
Assistant Commissioner for Patents
Washington, DC 20231

Sir:

     Transmitted herewith for filing is the patent application identified as follows:

-1-

Inventor(s):   Lawrence Cui
                  Mark Vladimirovich Marchukov
                  Phan T. Vo
                  Anurag Mendhekar
                  Mohan Vishwanath

Title: **METHOD AND APPARATUS FOR PROXY SERVER COOKIES**

No. of pages in Specification:_3_; No. of Claims:_1_.

No. of Sheets of Drawings:_0_; Formal: __, Informal: __.

Also enclosed are:

___ A Declaration.

___ An Assignment and Recordation Form Cover Sheet.

___ A certified copy of a priority application.

___ A Power of Attorney.

___ A Statement Claiming Small Entity Status.

___ An Information Disclosure Statement under 37 C.F.R. §1.56.

The filing fee pursuant to 37 C.F.R. §1.16 is determined as follows:

No. Filed	No. Extra		Rate Small Entity/ Other Than Small Entity		
Basic Fee			$380.00 $760.00	=	$380
Total Claims _1_ - 20 =	_0_ *	X	$ 9.00 $ 18.00	=	$0
Independent Claims _1_ - 3 =	_0_ *	X	$ 39.00 $ 78.00	=	$0
First Presentation of Multiple Dependent Claim(s) ___			$130.00 $260.00	=	$
			Total	=	$380

*If the difference is less than zero, enter "0".

__x__ Please charge Deposit Account No. 06-1325 in the amount of $380. A duplicate copy of this authorization is enclosed.

___ A check in the amount of $___ to cover the filing fee ($___), and assignment recording fee ($40.00), if applicable, is enclosed.

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__X__ The Commissioner is hereby authorized to charge underpayment of any additional fees (including those listed below) or credit any overpayment associated with this communication to Deposit Account No. 06-1325. A duplicate copy of this authorization is enclosed.

  __X__ Any additional filing fees under 37 C.F.R. §1.16.

  __X__ Any patent application processing fees under 37 C.F.R. §1.17.

  This application is filed pursuant to 37 C.F.R. §1.53(b) in the name of the above-identified Inventor(s).

  ___ This application claims priority to an earlier-filed Provisional patent application, as set forth more fully in this application.

  Please direct all correspondence concerning the above-identified application to the following address:

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Respectfully submitted,

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UNITED STATES PATENT APPLICATION FOR

METHOD AND APPARATUS FOR
PROXY SERVER COOKIES

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METHOD AND APPARATUS FOR
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BACKGROUND OF THE INVENTION

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The present invention relates generally to a Web technology and more particularly to methods and apparatus for proxy server cookies.

Cookies have been used in the World Wide Web (Web) to track a visitor's session state. However, many browsers running on devices with limited memory capacity do not **20** or cannot accept cookies. Also, for privacy reasons, many browsers also disable cookie handling mechanisms of their browsers. As a result, these browsers cannot access web pages that mandate cookie handling.

Thus there is a need for an alternative method to handle cookies in the Web.

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SUMMARY

The present invention is on methods and apparatus that can handle cookies for devices with limited memory capacity.

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In one embodiment, this is done by a server, which centralizes cookie handling for browsers on a number of clients. Not only does the invention solve the problems of browsers that cannot handle cookies, the invention also protects the privacy of surfers by

hiding their identities.

DETAILED DESCRIPTION OF THE INVENTION

5   One embodiment of the present invention is based on the concept of dynamic session, which starts when a browser sends a fresh request to a proxy server to access information on the Web.

In the present invention, the Web is defined as a network of computers that publish information using a standard protocol, such as HTTP, FTP or TCP/IP. A dynamic session 10   is defined as a request that the proxy server has no prior memory of.

When a new session is started, a unique session id can be generated. Within the same session, all embedded links in the response page can then be stamped with the same session id. A sessioned request is defined as a request that has session id information in addition to the request itself. The proxy server can relate a sessioned request to a session 15   via the session id. The session continues as long as the user stays in the links of the first page or pages generated from links in the first page. A session expires when its age reaches the lifetime set by the server. The session lifetime can be configurable through a configuration parameter. Due to the dynamic nature of the session, users do not have to log into the proxy server that provides centralized cookie handling services. Same user can start 20   multiple sessions at the same time.

In one embodiment, a client sends a fresh request for a particular URL to the proxy server. The proxy server first checks the request header to determine whether the browser of the client is capable of handling cookies. If the browser accepts cookies, and if the browser does not intend to disable cookie-handling capabilities, the proxy server would not 25   provide cookie service. Otherwise, the proxy server first generates a session id to identify the new session.

The proxy server then sends the request to the targeted external web site to get the

corresponding page. After getting the response page, the proxy server first strips off any cookies set by the external web site from the response header. The cookies, owned by a particular session and identified by the session id, are typically stored in a cookie repository for subsequent requests within the session.

5   In one embodiment, the session id, or its encoded or encrypted version, is in a configuration of a URL, or an address the web browser recognizes.

The proxy server then appends the session id or its encoded or encrypted version to all of the links embedded in the response page. Then, the proxy server sends the modified response page, with the new header, to the corresponding client.

10   In one embodiment, when a sessioned request is received, the proxy first retrieves and stripes off the session id from the request URL. The session id and the URL are then used to retrieve the cookies from the cookie repository. The proxy then uses the cookies retrieved to generate a cookie header. The new cookie header is then appended to the original request header. The session information is removed from the URL. The request

15   is then sent to the external web site to fetch the page. After receiving the page from the external web site, the same procedure as that of handling a fresh request is used to process the header and the page.

CLAIMS

1   1.   A method to handle cookies in a response Web page requested by a client
2 comprising the steps of:
3   generating a session id to identify a new session;
4   striping off any cookies set by an external web site from the response header of the
5 response Web page;
6   appending the session id to all of the links embedded in the response page; and
7   sending the modified response page, with the new header, to the client.

ABSTRACT

Methods and apparatus to handle cookies in a response Web page requested by a client. One method includes the steps of (a) generating a session id to identify a new session, (b) striping off any cookies set by an external web site from the response header of the response Web page, (c) appending the session id to all of the links embedded in the response page, and (d)sending the modified response page, with the new header, to the client.

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